4.5.2 PROJECT MANAGER REVIEW

Before the data is released , a project manager will review all final reports for consistency and completeness to ensure that the data meet the overall data quality objectives of the project. This review is intended to verify that those analyses requested on the COC have been performed, the sample information is accurate, and the appropriate data qualifiers have been added.

4.5.3 QUALITY ASSURANCE REVIEW

In addition to the tiered review process, the quality assurance department will periodically perform data audits. These audits, required as part of the laboratory quality systems audit program, can be performed for the generation of reports that include quality control data, and as a troubleshooting measure. Batches that are reviewed are chosen on random basis and recreate the calculations of all samples in a given batch.

4.5.4 REPORTING

For each sampling event/sample delivery group, the laboratory will prepare an analytical report. The analytical report, accompanied by a cover letter will generally contain the following elements.

- Laboratory name, address, and phone number
- Title of Analytical Results
- Date reported
- Client name (with address on the cover letter)
- Client project ID
- Work Order and Sample Number
- Client sample identification and description
- Client defined matrix
- Collection date and received date
- Analyte
- Result (at client requested reporting limits and units)
- Reporting limit
- Units
- Applicable data qualifiers and dilution factor
- Date of analysis
- Analytical method reference
- Date of sample preparation
- Analyst initials
- Page numbering

The original chain-of-custody form and the login checklist will be returned with each report. Any deviations from the requirements of the laboratory sample acceptance policy will be noted in the final report on either the cover letter or the login checklist.

REPORT ARCHIVE

Analytical reports generated as part of the injection well waste analysis sampling will be archived by the laboratory. Individual reports will be maintained in the work order file organized by work order number. In addition to the final report archive, the chosen laboratory will maintain a complete Data Level IV QC data package for each sampling event associated

with this Waste Analysis Plan. The QC documentation will be maintained by the laboratory and made available to Buckeye upon request.

4.6 INTERNAL LABORATORY AUDITS

The purpose of auditing is to identify whether the lab is generating scientifically sound and defensible data, and that daily operating systems meet the requirements of this quality assurance plan. It is the responsibility of the laboratory QA Director to perform periodic performance audits and system audits.

4.6.1 PERFORMANCE AUDITS

Performance audits are conducted periodically throughout the year. Performance audits include proficiency testing samples and detailed data reviews. Findings from these audits are used to evaluate the defensibility and data quality produced by the analytical system. Randomly selected samples from various test methods are evaluated in this process. Deficiencies from these audits are discussed with the analyst. Copies of the reports from these audits are forwarded to the unit supervisors and summarized for upper management in the annual system audit report.

4.6.2 SYSTEM AUDITS

A systems audit is performed on a minimum annual basis. The systems audit is a comprehensive review of the overall quality and measurement system. The purpose of these audits is to confirm compliance with the requirements of the Quality Assurance Plan, and to assess the applicability of the quality system to other certification and regulatory programs. Systems audits identify the presence of the necessary organization, facility, and quality systems needed to provide evidence of the laboratory=s capability and competence. Copies of the reports from these audits are forwarded to upper management.

4.7 LABORATORY CORRECTIVE ACTION PROCEDURES

Corrective action is necessary whenever deviations from requirements of the quality system occur. System corrective action is described in this section.

4.7.1 SYSTEM CORRECTIVE ACTION

The QA department typically initiates corrective action. This type of action is usually initiated due to poor performance audit results, poor system audit results, or unacceptable results on performance testing samples. Either the unit supervisor or their designee is responsible for investigating the problem and determining the corrective action needed. When the source of the problem has been identified and corrective action suggested, a written record is completed, evaluated and, if appropriate, approved by the unit supervisor and QA department. Documentation of each corrective action is kept on file. The forms used are numbered and monitored by the QA department to ensure that out of control events and actions are documented, and that the corrective actions are appropriate, effective, and complete.

Regardless of the source or projected impact on the system failure, the following systematic approach is used in developing a suitable corrective action. The emphasis of the corrective action is to prevent the problem from reoccurring.

- Define the problem
- Establish the root cause of the problem
- Determine the needed action to resolve the problem and eliminate the root cause
- Assign responsibility for implementing corrective action
- Verify the corrective action has been implemented and has eliminated the problem

5 SAFETY

5.1 SAFETY GUIDELINES

Sampling activities at the Buckeye Woodhaven terminal will be conducted with the proper personal protective equipment (PPE). Sampling activity will generally be conducted using Level D PPE. The following is a list of specific items to be used by field personnel as defined by Safety Level D:

- Hard Hat
- Safety Glasses with side shields
- Safety shoes
- Heavy work clothes covering legs, shoulders and arms
- Safety gloves appropriate for sampling activities

Caution must be exercised at all times when performing sampling activities. In and around the area of the injection well system various mechanical hazards exist.

APPENDIX

A SAMPLE GUIDELINES

TRACE ANALYTICAL LABORATORIES, INC.
2241 Black Creek Road, Muskegon, Michigan 49444-2673

LABORATORY OPERATIONS AND QUALITY ASSURANCE MANUAL

Bruce Pelletier — *(231) 773-5998, extension 239*
Bruce Pelletier, President

(231) 773-5998, extension 237
William Schroeder, Ph.D., Senior Vice President

(231) 773-5998, extension 242
Gina Roe, Laboratory Manager

(231) 773-5998, extension 252
Alyson Yagiela, QA/QC Manager

Major Organizational Units Covered by this Manual:

- *Sample Receiving Department*
- *Organics Laboratory*
- *Metals Laboratory*
- *Wet Chemistry Laboratory*
- *Extractions Laboratory*
- *Mobile Laboratory*
- *Reporting and Record Keeping Department*

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